

**Ariel Development, Inc.**

2317th. Avenue. South  
Seattle, WA 98144

(May 9, 2004)

**Work Plan for Steel Tank Removal and Disposal at Rainier Brewery, 6004 Airport Way,  
South, Seattle, WA**

The work as stated below will be performed in accordance with current State of Washington  
Administrative Codes as follows:

WAC 296-155-775 Part S Demolition

WAC 296-155 – Part C-1 Fall Restraint and Fall Arrest

WAC 296-62-07347 Arsenic

WAC 296-62-074 Cadmium

WAC 296-155-176 Lead

WAC 296 – 155 – Part J - Scaffolds

WAC 292-62, Part E and 296-62-07150 through 296-61-07156 Respiratory Protection

**1. WORK AREA**

1. Throughout Building Number 25.

**2. WORK DEFINITION**

1. Plasma torch cut into pieces and remove designated steel tanks, piping and support steel.

**3. WORK PARAMETERS**

1. Tanks are high carbon steel and will be torch cut into pieces suitable for disposal.
2. Tanks are painted with lead based paint.
3. Lead based paint will be disturbed during tank steel cutting.
4. A survey to determine the percentage of lead in paints has been conducted.
  - a. The lead based paint survey will be available onsite.
5. Tank piping and other non-tank surfaces may contain asbestos.
6. All Asbestos work will be subcontracted to a State of Washington Licensed asbestos contractor.
  - a. A Labor and Industries Asbestos Work Notification will be filed prior to the start of any asbestos related work.
  - b. A Puget Sound Clean Air Agency asbestos permit will be secured prior to the removal of any asbestos related materials.
7. Air Monitoring shall be conducted in accordance with Section 10 – Air Monitoring.
8. Type 'C' supplied air respirators will be worn during all torch cutting work.
9. QA/QC services will be provided by a Competent Person.

**4. TANK DEMOLITION WORK PLAN**

1. Using Lead Work Warning signs and Barrier tape, establish a regulated area around Each torching area. Maintain the regulated area until the competent person advises that the work is complete and meets particulate in air standards for Arsenic, Cadmium and lead.
2. All torch related work will be performed by Lead, Arsenic and Cadmium Awareness and Fall Protection certified individuals.
3. Entry into the regulated area will be limited to Lead, Arsenic and Cadmium Awareness trained individuals.
4. Set up scaffolding of sufficient height along tank sides to reach above the top of a tank.
5. Set an aluminum 'PICK' from one scaffold to another spanning over a tank and use the 'PICK' as the Fall Protection anchor point.
  - a. The scaffold and platform (pick) will be relocated as required to provide Fall Protection anchor points during torch cutting and piece removal.
6. A Mechanical Hoist (Bob-Cat, Cherry Picker or other equipment) will be utilized to secure cut pieces and move them to the floor prior to movement out of the area and into dumpster boxes.
7. Air monitoring will be conducted; refer to AIR SAMPLING Section 10 for details.

#### **5. NON-ASBESTOS WORK PLAN**

1. Saw cut openings in concrete walls as required to provide mechanical equipment access and passage of tank debris to dumpster boxes.
2. Working from the inside, set eye bolts into exterior walls pieces to be cut and removed.
3. For exterior wall cuts, establish a 20' clear barrier space around the area on the ground directly below the area to be cut.
  - a. Post a watch at the impact area to assure the non-presence of individuals.
4. Prior to the start of the cutting, secure steel cables to the eye bolts and secure the bitter end of the cable to a vertical column or other structure with sufficient strength to hold the piece in the event of it falling to the outside from the cut area.
  - a. Tension the cable so that upon completion of the cut, the piece cannot fall out and away from the cut.
5. Upon completion of the cut, and using the cable, pull the cut into the inside area then remove the eye bolts and dispose of the cut out plug.
6. Place Fall Protection Barriers across any opening with a potential for fall through.
7. All individuals using the cut area for pass through or other work are to be equipped with and wearing Fall Protection gear.

#### **6. LEAD PAINT, INCLUDING ARSENIC and CADMIUM DISTURBANCE WORK**

1. Prior to the torch burning of painted surfaces, samples will be taken and submitted for analysis to determine the presence of Arsenic, Cadmium and Lead.
2. A work plan will be developed for to manage the release of materials that exceed the current parts per million values used to establish the airborne presence of each referenced metal.
3. All airborne Arsenic related work, if present, will be performed by individuals trained to current WAC 296-62-07347 Arsenic standards.
4. All airborne Cadmium related work, if present, will be performed by individuals trained to current WAC 296-62-074 Cadmium standards.

5. All Lead related work will be performed by individuals trained to current WAC 296-155-176 Lead Standards.

## **7. LEAD PAINT WORK PLAN**

1. The work area shall be established as a regulated area demarked with barrier tape and signage.
2. Negative Initial Determination air sampling will be conducted to determine the presence and quantity of airborne Arsenic, Cadmium and Lead presence during torch cutting activity.
3. Analytical test results of air sampling will determine the selection of respiratory protection sufficient to provide respiratory protection for the metals determined to be present as outlined in the metal Respiratory Protecting Tables.
4. Additional air sampling will be performed to establish the efficiency of the work procedures and to insure that the respiratory in use provides adequate protection for the determined airborne values.

## **8. PERSONAL PROTECTIVE EQUIPMENT**

1. Torch users and other individuals with a potential for exposure to airborne metals will wear disposable clothing.
2. Torch operators will wear 'leathers' or other clothing commonly used for burning work over disposable clothing.
3. All individual in the area will wear suitable respiratory protection at all times while in the work area.
4. Hard toed footwear, hard hats, eye protection and reinforced or leather gloves are to be worn during all torch cutting and steel plate movement.
5. Existing facility telephones will be used for emergency notification.
6. A wash station will be established and all workers will wash their face and hands before eating, smoking, applying cosmetics or leaving the work area.

## **9. WASTE DISPOSAL- LEAD BASED PAINT**

1. A TCLP Waste stream profile will be conducted to establish the waste disposal procedure.

## **10. AIR SAMPLING**

1. All air sample analysis results will be made available to the on-site project supervisor within 56 hours of sampling.
2. A copy of all analytical results will be posted at the work site within one day of the receipt of analytical results.
3. Air sampling data, including analytical results, will be incorporated into the project Closeout Package.

## **TORCH CUTTING OF PAINTED SURFACES**

1. Pre-abatement air sampling will be conducted.
2. Daily work area air monitoring will be conducted as follows.
  - a. At the work site (4 -10 lpm for work shift duration)
  - b. Personal Sampling (2 – 4 lpm for work shift duration)
  - c. Personnel Short Term Exposure Limit (4 - 6 lpm for 30 minutes)
3. The following analytical values will indicate inappropriate work practices.

- a. Arsenic @ > 10  $\mu\text{g}/\text{m}^3$
  - b. Cadmium @ >5  $\mu\text{g}/\text{m}^3$
  - c. Lead @ >50  $\mu\text{g}/\text{m}^3$
4. Work practices will be revised to produce air-sampling results at or less than the values stated above.
  5. Personal air monitoring, including 30-minute short-term exposures, will be performed to determine employee exposure during all work that has potential for exposure to airborne Arsenic, Cadmium, Chromium and Lead.
  6. Negative exposure assessments will be conducted.
  7. Upon completion of the work, and prior to releasing the area to unrestricted access, three (3) air samples will be collected and analyzed to determine the presence and quantity of airborne particles.
  8. In the event negative exposure assessment values for airborne particles exceed the current PEL values, Negative Air Machines (NAM's) will be installed to capture the airborne particles.
  9. Additional NAM's will be installed as necessary to reduce airborne particles to below the PEL limits.
  10. HEPA filter equipped vacuum systems may be utilized to reduce airborne particulates.
  11. Air sample analysis will be provided by NVL Laboratories, 4708 Aurora Avenue North, Seattle, Washington.

#### **11. WORKER INFORMATION**

1. Employee asbestos awareness and lead training certificates will be submitted prior to the start of any asbestos or lead related work are enclosed for:
  - a.
  - b.
  - c.
2. Paul W. Jackson, Asbestos Supervisor No. 2004018948A (expires 05/26/04), Lead Supervisor No. 012 will provide Competent Person Services.

#### **12. RECORD KEEPING ITEMS**

1. Ariel Development, Inc. Project Identifier
2. Ariel Development, Inc. Project Purchase Order Number
3. Reserved
4. Reserved
5. Project Description
6. Analytical Laboratory Results Table
7. Pre Abatement Air Sampling Data Sheets
8. Personal Air Sampling Data Sheets
9. Short Term Exposure Sheets
10. Chain-of-Custody Data Sheets
11. Employee Names
12. Training Certificates
13. Medical Acceptances
14. Respirator Fit Tests

15. Supervisor Information
16. Competent Person Information
17. Daily Sign in – Sign Out Logs
18. Accident Reports
19. Employee Discipline Report
20. Reserved
21. Waste Delivery Forms
22. Visitor Names & Affiliation